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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,794

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Ernest De Ruiter

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111 MONUMENT CIRCLE, SUITE 3700
INDIANAPOLIS, IN 46204-5137

EXAMINER

MICALI, JOSEPH

ART UNIT

PAPER NUMBER

4181

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,794	Applicant(s) DE RUITER, ERNEST	
	Examiner JOSEPH V. MICALI	Art Unit 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/9/06, 4/25/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Claims 18-37 are pending and presented for examination on the merit.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. DE 103 37 100.1, filed on August 11th, 2003, and Application No. DE 103 43 637.5, filed on September 20th, 2003.

Information Disclosure Statement

In addressing the Information Disclosure Statement filed on April 25th, 2006, the listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the

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date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e).

See MPEP § 609.05(a).

Claim Objections

2. Claim 30 is objected to because of the following informalities: The process of claim 30 is dependent on claim 1, a cancelled claim. Examination will continue under the assumption that claim 18 is meant to be the properly referenced claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 18-19, 21, 25, and 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0092560 by Von Blucher, in view of US Patent No. 4,273,619 by Angelo II.**

With respect to claims 18-19, 21, and 27-30, Von Blucher teaches a process for producing granular activated carbon by carbonization, comprising of the plurality of temperature zones and the limitations of steps a (optional), b, and c of the currently reviewed application (**claim 1**). The apparatus transporting or conveying means can be through a continuous rotary tube (**paragraph 0039 and 0048**). Von Blucher also teaches a total residence time of the starting material in the apparatus in the range from 0.1 to 5 hours (**claim 9**). Finally, Von Blucher teaches a first temperature zone operated at temperatures in the range of from 50 to 200°C, a second temperature zone operated at temperatures in the range of from 100 to 500°C, and a third temperature zone operated at temperatures in the range of from 400 to 1,200°C (**claim 9 and 11 as well as MPEP 2144.05 [R-5] Obviousness of Ranges**).

Von Blucher does not, however, teach that the individual temperature zones are separately and independently controlled, as well as the setting of a temperature profile in the individual zones.

Angelo II teaches an apparatus for the process of continuously carbonizing and activating carbonaceous materials in a series of longitudinally spaced zones with independent regulation of gas and temperature (**column 6, lines 52-62 and claim 1**). Process control is performed by setting the temperature profile in the individual temperature zones (**column 6, lines 52-62 and claim 1**).

The motivation for the combination of these two inventions would have been obvious to a person of ordinary skill in the art at the time of invention, as the idea for continuous production of activated carbon has been around since the 1980s (with Angelo II). The addition of divided temperature zones has been shown not only in this field, but

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several others, including food technology and metallurgy. The suggestion or motivation to do so would be for better control of the carbonization apparatus, maintaining distinctions in sectioning rather than subjecting the whole apparatus to changes in temperature.

With respect to claims 31-35, Von Blucher teaches each of these. Von Blucher teaches a temperature zone, in which the groups, when thermally decomposed, lead to free radicals and thus to cross-linkages are sulfonic groups and are introduced into the starting material by sulfonation (**claim 1**). Von Blucher teaches a starting material comprising polymers in the form of polymer granules based on styrene and divinylbenzene and containing chemical groups which, when thermally decomposed, lead to free radicals and thus to cross-linkages (**claim 1**). Furthermore, Von Blucher teaches that the starting material used comprises ion-exchanger resins having sulfonic acid groups (**claim 4**), or the chemical groups are sulfonic acid groups being already present in the starting material, wherein the weight ratio of polymers to sulfonic acid groups is in the range from 5:1 to 1:1 (**claim 2-4**). Finally, Von Blucher teaches a subsequent activation of the carbonized material (**claim 1**).

Von Blucher does not, however, teach that the individual temperature zones are separately and independently controlled.

As mentioned above, Angelo II teaches separately and independently controlled individual temperature zones. The suggestion or motivation can also be found above.

6. Claims 22-24 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0092560 by Von Blucher in view of US

Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35 above, and further in view of US Patent No. 5,212,144 by Schwartz, Jr.

With respect to claims 22-24 and 36-37, Von Blucher teaches a process for producing granular activated carbon by carbonization comprising of the plurality of temperature zones listed in claim 18, steps a (optional), b, and c of the currently reviewed application (**claim 1**). Angelo II teaches an apparatus for the process of continuously carbonizing and activating carbonaceous materials in a series of longitudinally spaced zones with independent regulation of gas and temperature (**column 6, lines 52-62 and claim 1**).

Angelo II, while teaching the regulated divisions in independent temperature zones, does not include the means for separating the different zones by a lock mechanism for exhaust means.

Von Blucher in view of Angelo II, however, fails to teach an apparatus and method for producing activated carbon through a furnace in a plurality of treatment stages.

Schwartz, Jr. teaches an apparatus and method for producing activated carbon through a furnace in a plurality of treatment stages, with a preferred embodiment having air locks or their equivalent set between stages that sweep gases can be introduced and exhausted per stage (**claim 7 and column 6, line 10-36**).

Von Blucher, Angelo II, and Schwartz, Jr. are all drawn to similar methods of continuously producing activated carbon. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the lock feature of Schwartz, Jr. with the method of Angelo II and Von Blucher under the suggestion or

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motivation of better control over separating gases and temperature zones from each other as well as maintaining purity within each section.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0092560 by Von Blucher in view of US Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35 above, and further in view of US Patent No. 5,437,237 by Digre.

With respect to claim 20, Von Blucher teaches a process for producing granular activated carbon by carbonization comprising of the plurality of temperature zones listed in claim 18, steps a (optional), b, and c of the currently reviewed application (**claim 1**).

Angelo II teaches an apparatus for the process of continuously carbonizing and activating carbonaceous materials in a series of longitudinally spaced zones with independent regulation of gas and temperature (**column 6, lines 52-62 and claim 1**).

While both Von Blucher and Angelo II teach an apparatus with transporting or conveying means (a continuous rotary tube or tumbling bed), neither teach an apparatus using a belt-oven.

Digre is drawn to a continuous pyrolysis (or carbonization) system using a belt-oven (**claim 7**).

Von Blucher, Angelo II, and Digre are all drawn to producing carbon through an apparatus employing transporting means. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute the belt-oven of Digre for the continuous rotary tube of Von Blucher. The suggestion or motivation to do so would have been a substitution of transporting means as a rotary tube is tougher and

harsher on the material than a belt-oven; thus, the advantage of selecting a belt-oven would be for smoother, most consistent transporting through the apparatus.

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0092560 by Von Blucher in view of US Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35 above, and in further view of US Patent No. 6,316,378 by Giebelhausen et al.

With respect to claim 26, Von Blucher teaches a process for producing granular activated carbon by carbonization comprising of the plurality of temperature zones listed in claim 18, steps a (optional), b, and c of the currently reviewed application (**claim 1**).

Angelo II teaches an apparatus for the process of continuously carbonizing and activating carbonaceous materials in a series of longitudinally spaced zones with independent regulation of gas and temperature (**column 6, lines 52-62 and claim 1**).

Von Blucher in view of Angelo II, however, does not specifically claim a speed setting for the starting material to move through the apparatus, just that it moves continuously (Von Blucher does the same).

However, to ensure the rejection, Giebelhausen teaches a method of producing shaped activated carbon through a kiln apparatus, and specifically wherein process control is performed by setting the speed at which the starting material moves through the temperature zones of the apparatus (**claim 2**).

Von Blucher, Angelo II, and Giebelhausen are all drawn to similar methods of continuously producing activated carbon. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the limitation of

Giebelhausen with the method of Von Blucher and Angelo II, with the suggestion or motivation of specifying a speed required by Von Blucher but not disclosed.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 18-19, 21, 25, and 27-35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over US Patent No. 7,288,504 by Von Blucher, in view of US Patent No. 4,273,619 by Angelo II.

The basis for this rejection is explained in point 5 above.

11. Claims 22-24 and 36-37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent No. 7,288,504 by Von Blucher in view of US Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35, and further in view of US Patent No. 5,212,144 by Schwartz, Jr.

The basis for this rejection is explained in point 6 above.

12. Claim 20 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent No. 7,288,504 by Von Blucher in view of US Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35, and further in view of US Patent No. 5,437,237 by Digre .

The basis for this rejection is explained in point 7 above.

13. Claim 26 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent No. 7,288,504 by Von Blucher in view of US Patent No. 4,273,619 by Angelo II, as applied to claims 18-19, 21, 25, and 27-35, and further in view of US Patent No. 6,316,378 by Giebelhausen et al.

The basis for this rejection is explained in point 8 above.

Conclusion

14. Claims 18-37 are not allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH V. MICALI whose telephone number is (571)270-5906. The examiner can normally be reached on Monday through Friday, 7:30am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VICKIE KIM can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JM

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181